



*Charles White, F. R. S.*

Charles James Cullingworth



(White, C.)  
Cullerworth



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CHARLES WHITE, F.R.S.

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Cullin



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PORTRAIT OF CHARLES WHITE, AFTER J. ALLEN, ENGRAVED BY  
W. WARD, 1809; WITH AUTOGRAPH (FROM LETTER TO DR.  
RIGBY OF NORWICH, DATED SEPT., 1811, IN THE LIBRARY  
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*L. m. P.*

AND

## AN ADDRESS

BY  
NGWORTH, M.D.,  
ETC., ETC.

ETC., ETC.

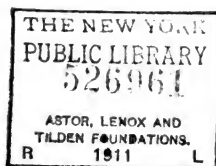
WITH NOTES AND ILLUSTRATIONS.

LONDON :

HENRY J. GLAISHER,

57, WIGMORE STREET, CAVENDISH SQUARE, W.

1904.



ROY WEN  
CLEON  
YHABU

## PREFACE.

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I WOULD not (to borrow a quaint phrase from De Quincey) have molested the reader with a preface, were it not that a preface seems the most suitable medium for expressing obligations. I should indeed be ungrateful if I did not publicly acknowledge, as I have already acknowledged in private, my great indebtedness not only to the many kind friends and correspondents who have responded to my request for information, but also to Mrs. D. J. Leech and Dr. E. M. Brockbank who have allowed me to illustrate my address with copies of old engravings in their possession, and perhaps, most of all, to Mr. J. C. Swan of Cullercoats, who, besides having placed a large number of family documents at my disposal, lent me the valuable portrait in which so much interest was shown on the occasion when the address was delivered. If for no other reason than that my enquiries have been the fortunate means of discovering the existence and whereabouts of this fine picture, (long believed to have been irretrievably lost), I shall never regret my selection of a subject.

With Mr. Sutton's excellent article in the "Dictionary of National Biography" as my ground plan, I have aimed at putting together as complete and accurate an account of Charles White's life and work, and at giving as true an impression of his character, as the materials at my disposal, and the necessary limitations of an address, permitted.

A portion of the address, as originally prepared and as here presented, was omitted, on the occasion of its delivery, from want of time. I should also like to add that, as the idea of speaking to old friends was constantly before my mind during its preparation, my address has naturally taken a somewhat colloquial form, which I have thought it better to leave undisturbed, and for which I must ask my readers to make due allowance.

14, MANCHESTER SQUARE,  
LONDON, W.

*January, 1904.*

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CHARLES WHITE, F.R.S., A GREAT PROVINCIAL  
SURGEON AND OBSTETRICIAN OF THE  
EIGHTEENTH CENTURY.

*An Address delivered before the Medical Society of Manchester,  
October 7th, 1903,*

BY

CHARLES J. CULLINGWORTH, M.D.

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GENTLEMEN,—

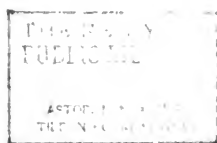
When your President, my old friend, Dr. Edge, wrote to tell me of your wish that I should come down and deliver the opening address on this occasion, I was conscious of an unusual glow of pleasure. It must, I think, always be peculiarly gratifying to a man to receive, in the later years of his life, a special mark of appreciation from those amongst whom many of his earlier years were spent and much of his earlier work was done. I cannot claim the honour of having been born or even of having received my formal education in Manchester, but I came amongst you within two years after becoming legally qualified to practise my profession, and it was here that I spent some of the happiest years of my life, received some of my strongest and most lasting impressions, and formed some of my warmest and most enduring friendships. Let me thank you, therefore, very cordially for asking me to come and renew my association with Manchester and its Medical Society—a Society which, as many of you know, I had the honour to serve, first in the capacity of hon. librarian and then in that of hon. secretary, for a continuous period of thirteen years, during which I naturally became closely identified with its history and fortunes.

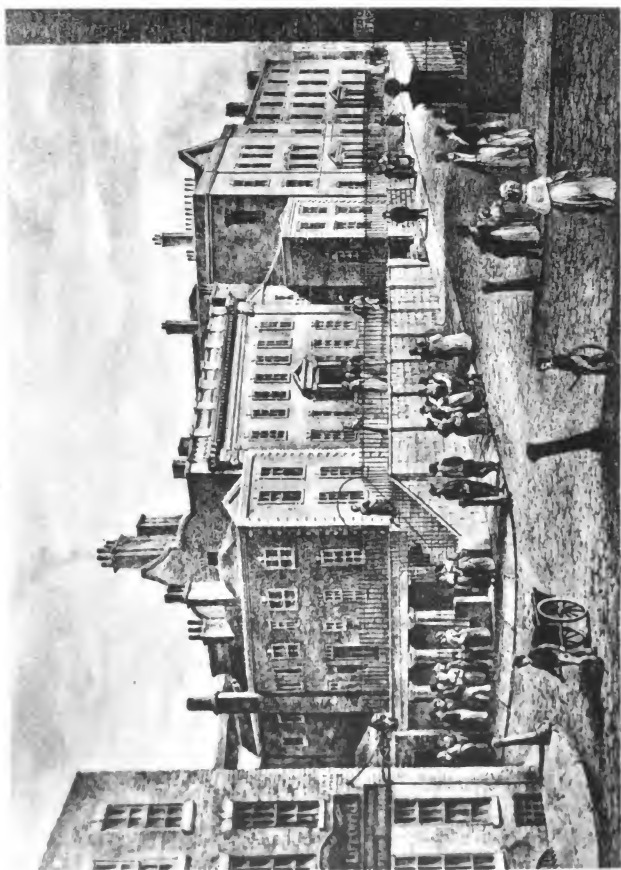
In selecting a subject on which to speak to you this evening, I desired to choose something if possible that would be of general interest, of interest, I mean, to those engaged in every branch of our common profession, and at the same time to indicate, by my choice,



my deep conviction of the important share that Manchester has taken in the development of British Medicine, British Surgery, and British Midwifery. For many years I have had it on my mind to gather together such materials as are obtainable for a somewhat fuller account than has yet appeared of the life and work of one of the greatest, if not the greatest, amongst the medical worthies of Manchester: Charles White, the friend of John Hunter, the principal founder of your famous Infirmary, the founder, also, along with the two Halls, of the lying-in charity, now St. Mary's Hospital, an undoubted pioneer in conservative joint-surgery, and, above all, the emancipator of the lying-in woman from the unwholesome influences and deadly dangers to which she had been condemned by the accumulated traditions of centuries of ignorance and superstition.

When elected President of the Obstetrical Society of London in 1897, I was strongly inclined to take the story of Charles White's life as the subject of my inaugural address, but after making a beginning in the way of collecting materials, it was borne in upon me that I ought to utilise that occasion for another and more immediately urgent purpose, and so my plan, for the time being, was put aside until a more suitable opportunity should occur. Such an opportunity your kind invitation seemed to provide. And so, to-night, I purpose telling you what I can of Charles White and of his work and life and influence. Already there has befallen me the usual fate of those who procrastinate. Others have taken up the subject and have to a certain extent forestalled me. In Mr. Whitehead's presidential address before the Meeting of the British Medical Association held here last year, and also in the address delivered by Dr. Lloyd Roberts as President of the Section of Obstetrics and Gynæcology at that meeting, some account was given of Charles White and of his work as viewed from the respective standpoints of the two speakers. And not only so, but I was in danger of having the ground still more completely taken from under my feet by another of your members, Dr. E. M. Brockbank, who, I found, had already by independent enquiry, got together a very considerable amount of information about Charles White in connection with the valuable series of biographical sketches of the older physicians and surgeons to the Manchester Infirmary which he is contributing to the pages of *The Medical Chronicle*. My first impulse, on making the discovery, was to retire from the field; but, on reflection, it seemed to me that there was abundant material for both of us, and that we need not, and pro-







CHARLES WHITE'S HOUSE IN KING STREET, MANCHESTER, FROM  
A DRAWING BY J. RALSTON, ENGRAVED BY A. AGLIO, 1823.  
UPON THIS SITE WAS AFTERWARDS ERECTED THE BUILDING  
WHICH IS NOW THE MANCHESTER FREE REFERENCE LIBRARY.

bably should not, give prominence to the same episodes in White's career, which was certainly long enough and varied enough to afford ample room for selection. Dr. Brockbank himself took a similar view of the situation, and, although I desired him by no means to disturb on my account the order of publication of his series of biographies, he insisted on withholding his sketch of White until after this address had been delivered, an act of generous self-renunciation of which I take this opportunity to express my cordial appreciation.

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CHARLES WHITE was a thorough Manchester man. Born in Manchester, of parents who resided there, he was educated there, practised his profession there, and died, if not actually in Manchester, at so short a distance from it, as to be still within claim. For although a caviller might truthfully maintain that the occurrence took place in another county (seeing that he died at Sale in Cheshire), that would be one of those truths which is but a dangerous and misleading half-truth, and Manchester does not, I take it, lose its claim upon a man because he chooses to live his last years, and die, just outside the city, in what, in a Directory of White's own time, could be correctly described as, "a pretty hermitage" on the banks of the Mersey.

White came of medical stock, his father being Dr. Thomas White, who was born on the 9th of April, 1696, and who, after practising his profession in King Street in a house\* in which his son succeeded him, retired to his country cottage

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\* This house was situated on high ground at the corner of Cross Street, on the site afterwards occupied by the Town Hall, now the home of the Free Reference Library. Contemporary accounts describe the house as having in front of it a terrace approached from the street at each end by a flight of steps, and as being quite the most handsome and conspicuous house in the street. (*See drawing.*)

at Sale, and died there on the 20th of July, 1776, at the age of 80.

From the fly-leaf of an old "Breeches" Bible, "imprinted at London by Christopher Barker, printer to the Queen's Majesty, 1578," and discovered about twenty years ago in the collection of a second-hand bookseller, it appears that the book came into the possession of the White family about 1728, the year of Charles White's birth, and was thereupon made the repository of the family records. These records commence with an account of Dr. Thomas White's ancestry. His grandfather was "Charles White, Esq., of Benall Abby, near Griesley [Greasley], Nottinghamshire," who was Member of Parliament for the County of Nottingham, and "Colonel of a regiment under the King in the grand rebellion, when he lost his estate." Colonel White had a son, Thomas, who was "baptised at Griesley, 28th December, 1656," practised as an attorney at Manchester, and died in 1702, when his son Thomas (Charles White's father) was but a child of six. The record goes on to say that Dr. Thomas White and his wife Rosamund had three children: Charles, Sarah, and Elizabeth, born in 1728, 1730, and 1739 respectively.\*

Of Charles's education nothing is known beyond the fact that it was received in Manchester from the Rev. Radcliffe

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\* There are some curiously contradictory statements in reference to the family of Thomas and Rosamund White. Thus, in a "Release" executed April 5, 1777, by Charles White's brother-in-law, George Johnson, there occur the following words: "And whereas the said marriage [*i.e.*, between Thomas White and Rosamund Bower] soon afterwards took effect and there were issue thereof Charles White now of Manchester aforesaid surgeon and Sarah late wife of the said George Johnson and *no other issue*," &c. The question, however, as to there having been a daughter Elizabeth appears to be finally set at rest by

Russel, who is described by a contemporary as "a respectable clergyman, a good scholar, and a polite and well-bred gentleman." It is interesting to note, in parenthesis, how this quotation illustrates the change that has taken place in the meaning of the word "respectable." To our ears, the application of the word to a clergyman carries with it no suggestion of the compliment which was obviously intended.\* This excellent man was, however, allowed but a very limited time in which to complete the education of his pupil, for, in accordance with the custom of the time, Dr. White began very early to initiate his son into the "art and mystery" of his own profession, and we are told that Charles was even allowed, while still a mere boy, to assist his father in his midwifery practice. After a time he was sent to attend lectures

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the following extracts from the registers of Manchester Cathedral, kindly supplied to me by Dr. Brockbank: "Baptism: Sept. 27, 1739. White, Elizabeth, dau. of Thos. & Rosamund, Surgeon."—"Burial: Feb. 22, 1744. White, Elizb<sup>th</sup>. dau. of Doctor Thomas."

Again, there appeared in *Manchester Notes & Queries* for Aug. 17, 1889, a letter signed "Elizabeth White," in which it is stated that Charles White had two younger brothers, named respectively William and John, from the latter of whom the writer claims direct descent, his son having been, she says, her grandfather. The above extract from the family records shows this statement to be incorrect. Its inaccuracy is confirmed by a deed of gift to Charles White from his mother, dated May 1, 1754, and now before me, in which she speaks of him as "her only son, Charles," and also by Charles White's description of himself on the monument he erected at Sale to the memory of his father, as his father's "only son." The error no doubt arose from the fact of Charles White having had a cousin of the same name, one of the four sons of William White, his father's brother. The names of the four as ascertained from a copy of the will of one of them were William, Samuel, Charles and John respectively.

\* See also later in the same memoir where, after an elaborate eulogy of White, his biographer (Henry) speaks of him as "our respectable associate."



and hospital practice in London, and there it was that he formed the acquaintance, destined to ripen into a life-long friendship, of John Hunter, the two going together to the lectures of John Hunter's elder brother, the scarcely less celebrated Dr. William Hunter, then at the height of his reputation as a teacher of anatomy in London. We have no information as to the exact date of White's departure for London, but we are able to fix it approximately by collateral evidence. We know, for example, that John Hunter joined his brother in London in the month of September, 1748 (*see* "Holden's Hunterian Oration," London, 1881), and we also know that White became his fellow student, and that "the first course of lectures attended by either of the students was delivered by William Hunter." This course must have been attended very soon after John's arrival in London, for in the following winter (1749-50) he (John) had acquired sufficient anatomical knowledge and sufficient dexterity in dissecting, to be able to act as demonstrator of anatomy to his brother and occasionally to fill his place as lecturer. Hence it seems safe to infer that White began his studies in London in or about the year 1748, when he was at the age of 20. He cannot have been a very long time in London, for, in 1752, we find him so far settled in Manchester as to be agitating for the establishment of a hospital there, and not only so, but he had in the meantime supplemented his London experiences by passing a winter at the University of Edinburgh, already becoming famous as a School of Medicine. That he made the best possible use of his time and became fired with an enthusiasm similar to that of his fellow student is evident from the whole of his subsequent career. How far this was

the result of his association with John Hunter there is now no means of knowing. I have made diligent search in the Library of the Royal College of Surgeons and elsewhere for any notes, letters, or other records bearing on that association, but in vain. Mr. D'Arcy Power informs me that the late librarian of the College, Mr. Bailey, who was profoundly interested in everything relating to John Hunter, was strongly of opinion that Charles White was at one time a pupil of John Hunter's, and that it would some day be shown that one of the hitherto unnamed portraits in Rowlandson's picture of John Hunter and his pupils, now in the possession of the College of Surgeons, is a portrait of White. I have seen and examined the picture, and I do not think Mr. Bailey's prophecy likely to come true. And even if it should, it could not be accepted as evidence that Hunter and White were ever in the relation to one another of master and pupil. Indeed, as a matter of fact, by the time Hunter had become surgeon to St. George's Hospital (December, 1768), and had thereby found himself for the first time in a position to take pupils, White had been in full practice in Manchester for at least sixteen years. But from whatever source it was derived, and the probability is that the influence of the two friends upon each other was mutually inspiring, there can be no doubt that White received during the short time he was in London and in Edinburgh, a stimulus the effects of which were not only apparent through the whole of his long life, but which have left their mark upon the medical institutions and the medical spirit of Manchester in a way that no student of the medical history of that city can fail to recognise and appreciate.

On his return to Manchester he joined his father, and very soon established a reputation that led not only to a very considerable practice within the town itself, but also to an extensive consulting practice in the surrounding district. He was, as Allen's well known portrait of him indicates,\* a man of great force of character and immense energy, and his powers of physical endurance were quite remarkable. "Even in advanced age," we are told, "he was capable of performing without fatigue very long journies on horseback, and of bearing without injury to his health exposure to the most inclement weather. He required little sleep and was for the greater part of his life an early riser." With these physical qualifications, added to mental endowments that raised him far above the majority of his medical contemporaries, it is no wonder that by the time he had been settled twenty years in Manchester he had come to be considered as the head of his profession in the North of England. He remained in almost undisputed possession of this pre-eminence for many years, quite up to the close of the century.

An interesting sidelight is thrown upon the aspect in which he was regarded by the general community from some casual allusions in "De Quincey's Autobiography." De Quincey, it will be remembered, was born in Manchester

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\* This picture has been rendered familiar by Ward's excellent mezzotint engraving (*reproduced in the frontispiece*). The original oil-painting was supposed to have been destroyed, in a fire that took place at St. Mary's Hospital, Manchester, in 1847, and hopes of seeing it again had long been abandoned. Whilst preparing this address, however, I was fortunate enough to discover that it is still in existence. The owner, Mr. Swan, a great great grandson of White's, very kindly lent it to me to show to my Manchester audience. It is a very beautiful painting and in excellent preservation.

in 1785. Three sisters were his nursery playmates ; of these, one, a year younger than De Quincey, died at the age of three and a half years. "Death," he says, "was then scarcely intelligible to me, and I could not so properly be said to suffer sorrow as a sad perplexity . . . . I knew little more of mortality than that Jane had disappeared." "The first wound" in his infant heart was therefore "easily healed. Not so the second." His "dear noble Elizabeth," as he calls her, the sister, two or three years older than himself, upon whom he had lavished a wealth of affection, was, "after an interval of happy years," also summoned away from the nursery ; and the night which for him "gathered upon that event ran after [his] steps far into life." The child died, it appears, at the age of nine. "Her medical attendants," he says in one of his copious foot-notes, "were Dr. Percival,\* a well-known literary physician, who had been a correspondent of Condorcet, D'Alembert, etc., and Mr. Charles White, the most distinguished surgeon at that time in the North of England. It was he who pronounced her head to be the finest in its development of any that he had ever seen—an assertion which, to my own knowledge, he repeated in after years, and with enthusiasm . . . . Meantime," adds De Quincey, "as it would grieve me that any *trait* of what might seem vanity should creep into this record, I will admit that my sister died of hydrocephalus"; a disease, he goes on to say, characterized by a premature expansion of the intellect, which, though usually considered morbid and due to the mere stimulation

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\* See Dr. Brockbank's account of his life in *The Medical Chronicle*, July, 1903.

of the disease, may, he thinks, be in reality the cause of the disease from the spontaneous growth of the intellect "out-running the capacities of the physical structure." Perhaps the admiration bestowed by White upon the "superb development" of the poor child's head may be accounted for by *his* having entertained some similar theory.

In order that De Quincey's next allusion to White may be understood, it should be mentioned that the beautiful and accomplished wife of the fourth Baron Carbery had, in the days when she was Miss Susan Watson, been in the habit of paying occasional visits to the house of De Quincey's father, and had known De Quincey himself from infancy. One of Lord Carbery's English seats was at Laxton, in Northamptonshire, where De Quincey and his sister Mary were on a visit when it became necessary to have surgical advice for a lady who had acted as companion and chaperon to Lady Carbery before her marriage. The lady's name was Schreiber, she having, when a young widow, married and soon parted from "an ancient German gentleman . . . . who had every possible bad quality known to European experience, and a solitary good one: viz., eight hundred thousand pounds, sterling." On the suggestion of De Quincey's mother, Mr. White "had been summoned to Laxton, in the hope that he might mitigate the torments of Mrs. Schreiber's malady," presumably a cancer.\* "Mr.

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\* It is probably to this journey that White refers when he describes his being called in Sept., 1800, to visit a patient in Rutlandshire (in which county, just over the Northamptonshire border, Mrs. Schreiber's house was situated), and travelling post 120 miles without inconvenience, at a time when he was suffering from a poisoned thumb, the result of an accidental puncture with a lancet armed with vaccine

White," says De Quincey (using nearly the same expression that he had used once before), "was in those days the most eminent surgeon by much in the North of England. He had by one whole generation," he continues, "run before the phrenologists and craniologists—having already measured innumerable skulls amongst the omnigenous seafaring population of Liverpool, illustrating all the races of men,\* and was in society a most welcome and pleasant companion . . . . What might be the quality or the extent of that relief with which Mr. White was able to crown the expectations of poor Mrs. Schreiber, I do not know ; but that that relief could not have been imaginary, is certain, for he was earnestly invited to repeat his visits, costly as unavoidably they were. Mrs. Schreiber did not reside at Laxton. Tenderly as she loved Lady Carbery, it did not seem consistent with her dignity that she should take a station that might have been grossly misinterpreted ; and accordingly she bought or hired a miniature kind of villa, called *Tixover*, distant about four miles from Laxton. A residence in such a house, so sad and silent

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matter. ("Inquiry into the Nature and Cause," &c. Part II., March, 1801, pp. 26 and 27.)

\* See "An Account of the Regular Gradation in Man," &c., by Charles White, 4to, plates, Lond., 1799. In this work (further reference to which is made later on) White recorded, *inter alia*, the results of measurements he had made upon about fifty negroes with a view to determine certain differences between them and European peoples. A writer in the *British Medical Journal* for October 31st, 1903, alluding to these observations, speaks of Charles White as the "father of anthropometry." Inasmuch as Camper, Blumenbach, John Hunter and others had already published anthropometrical observations, this claim cannot, I think, be sustained. It is certain, however, that White deserves recognition as one of the earliest workers in the field of anthropometry.

at this period of affliction for its mistress, would have offered too cheerless a life to Mr. White. He took up his abode, therefore, at Laxton during his earliest visit. . . . Already as an infant," proceeds De Quincey, "I had known Mr. White; but now when daily riding over to Tixover in company, and daily meeting at breakfast and dinner, we became intimate. Greatly I profited by this intimacy, and some part of my pleasure in the Laxton plan of migration to Manchester was drawn from the prospect of renewing it.

"Such a migration was suggested by Mr. White himself; and fortunately he *could* suggest it without even the appearance of any mercenary views. His interest lay the other way. The large special retainer, which it was felt but reasonable to pay him under circumstances so peculiar, naturally disturbed Mr. White; whilst the benefit of visits so discontinuous became more and more doubtful. He proposed it, therefore, as a measure of prudence, that Mrs. Schreiber should take up her abode in Manchester. This counsel was adopted; and the entire Laxton party in one week struck their Northamptonshire tents, dived as it were into momentary darkness by a loitering journey of stages, short and few, out of consideration for the invalid, and rose again in the gloomy streets of Manchester.

"Gloomy they were at that time—mud below, smoke above—for no torch of improvement had yet explored the ancient habitations of this Lancashire capital. Elsewhere I have expressed the inexhaustible admiration which I cherish for the *moral* qualities, the unrivalled energy and perseverance, of that native Lancashire population, as yet not much alloyed with Celtic adulteration . . . In those days the Manchester

people realized the aspiration of the noble Scythian : not the place it was that glorified *them*, but they that glorified the place."

I have extended this quotation beyond the limits of the paragraphs that have immediate reference to my subject, partly because of the perennial interest that attaches to De Quincey's impression of Manchester and its people as they were a hundred years ago, and partly because one is tempted on and on by the indefinable charm of his style. But my main object in quoting him has been to show, from an unbiassed and independent source, the high position that White occupied in public estimation, and the value that was placed upon his services. It is pleasant, too, to think of this gifted boy of 16, chatting, and even, as he himself phrases it, becoming intimate, with the veteran of 72 or thereabouts, and not only finding delight therein but looking forward to a renewal of the intimacy in Manchester as one of Manchester's greatest attractions.

There is, in these fascinating chapters of autobiography, still another passage that has reference to White, but that may be conveniently deferred until we come to speak of his celebrated museum.

It must have been very soon after his return from Edinburgh to rejoin his father in Manchester, that the project of a public hospital or infirmary for Manchester began to be discussed, for in the spring of the year 1752, Mr. Joseph Bancroft, evidently a friend and admirer of the young and enthusiastic surgeon, offered, even if he alone had to bear the entire cost, to defray all the expenses of such an institution for one year, provided Charles White, who, let it be remembered, was not



yet 24 years of age, would consent to give his professional assistance. The proposal was accepted and they hired a small house in Garden Street, Shudehill, by way of experiment. A few other gentlemen joined Mr. Bancroft, the project was made public, and on the 24th of June, a modest and tentative beginning was made by opening the institution for the relief of out-patients. By the end of July, it was found possible to begin admitting in-patients; and so, and in such humble fashion, the Manchester Infirmary was started on its beneficent career. At a general meeting of the subscribers in December, 1752, it was unanimously resolved "to erect with all convenient speed an infirmary capable of containing forty beds," and a piece of ground was selected for the purpose. But the situation chosen being afterwards considered unsuitable, and Sir Oswald Mosley, the then lord of the manor of Manchester, having offered to grant a lease for 999 years of the more eligible plot known by the name of "Daub Hole Field"\* at the nominal ground rent of £6 per annum, it was determined to enlarge the design; and, accordingly on the 20th of May, 1754, the foundation of the new building was laid, and in April of the following year it was ready for the reception of patients. The story of

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\* "An oblong sheet of water occupied the front of the 'Daub Hole Field,' stretching from the present Portland Street to Mosley Street, and came to be known as the 'Infirmary Pond.' (*See drawing.*)

"The terms 'Daub' and 'Daub Hole' doubtless originated in the circumstance that most of the 16th and 17th century houses in Manchester were built on what is commonly known as the 'wattle and daub' style, and that the oblong excavation made by a long continued removal of the clay formed a suitable bed for the storage of water, from which, aided by other sources, the then inhabitants drew supplies for domestic purposes."—Renaud (F.), "A Short History of the Manchester Royal Infirmary." Manch., 1898, p. 10.

THE MANCHESTER INFIRMARY AND LUNATIC HOSPITAL, AS SEEN  
FROM THE CORNER OF OLDHAM STREET, FROM A DRAWING  
BY J. STANTON, ENGRAVED BY JAMES BOTTOMLEY, JUNR.,  
UNDATED.

1. The first part of the paper is devoted to the study of the properties of the function  $f(x)$  defined by the equation
 
$$f(x) = \int_0^x \frac{1}{1+t^2} dt$$
 for  $x \in \mathbb{R}$ . It is shown that  $f(x)$  is an odd function and that it is strictly increasing on  $\mathbb{R}$ . Moreover, it is proved that  $f(x)$  is concave down on  $\mathbb{R}$ .



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CHICAGO

the Manchester Infirmary has often been told, and never better and more clearly than in the series of papers by Dr. Brockbank, now in course of publication. It is unnecessary, therefore, for me to enlarge upon it here. I need only say that, in the first printed list of officers containing the names of three (honorary) physicians, three (honorary) surgeons, and two (honorary) surgeons extraordinary, the list of surgeons is headed by the name of Charles White. He remained an active member of the staff for thirty-eight years, namely, until August, 1790, when, after an unfortunate and long-continued controversy, he, together with five colleagues, resigned his post, the alleged reasons being that the wishes and opinions of the medical faculty had lately been treated with neglect, and that alterations of which they gravely disapproved were being made in the constitution of the charity.

Following the custom of his time, Charles White received apprentices into his house. One of his pupils was Peter Holland, afterwards a well-known and highly-respected practitioner at Knutsford, in Cheshire. He was the father of Sir Henry Holland, who became Physician to Queen Victoria and to the Prince Consort, and whose son, after having been appointed Secretary of State for the Colonies, was raised to the peerage, and now bears the title of Viscount Knutsford.

On the 18th of February, 1762, when in his thirty-third year, White was elected and admitted a Fellow of the Royal Society. By the courtesy of the present Assistant Secretary of the Society, Mr. Robert Harrison, I have been furnished with a copy of the certificate of candidature. It is dated November 19th, 1761, and reads as follows:—

"Mr. Charles White, Surgeon at Manchester, who some time ago communicated two chirurgical papers to the Society, being desirous of the honour of being a Member of the Royal Society, we recommend him on our personal knowledge as a gentleman, by his skill in his profession and extensive practice, well qualified, and likely, to become a useful member."

To this document the following six names are appended:—Willoughby, George Lloyd, Nathan Alcock, J. Byrom, John Lloyd, and John Lewis Petit. Of these six, three, Alcock, Byrom, and Petit, were men of some note.\*

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\* Nathan Alcock was born at Runcorn in 1707. He studied at Leyden under the illustrious Boerhaave, not only learning from him his profession, but also how to teach it. After obtaining his M.D. in 1737, he left Leyden for Oxford, where one professor of the medical faculty gave no lectures and the other was non-resident. Alcock, seeing his opportunity, began himself to give lectures in anatomy and chemistry, thereby arousing a storm of opposition. Public readers were appointed, but were unable to compete with a man fresh from the class-rooms of Albinus and Gobius, and the stimulating teaching methods of Boerhaave. Hence, while his lecture-rooms were crowded, those of his opponents were deserted. Baffled in their attempts to suppress him in this way, they declared him to be theologically unorthodox, and on this ground prevented him for some time from obtaining his degree. He had, however, some very strong supporters, amongst them Sir W. Blackstone and Dr. (afterwards Bishop) Lowth, and eventually a Master's degree was granted to him. In 1754 he was elected a Fellow of the Royal College of Physicians of London. He had an extensive practice at Oxford. In 1759 he retired to his native place with an idea of giving up work, but he soon obtained a large practice there and continued in active employment for nearly twenty years. He died at Runcorn in 1779. (See "Dict. Nat. Biog.")

John Byrom, the poet, stenographer, and sturdy Jacobite, is too well known in Manchester, where he was born and lived and died, to need that I should here refer to him at any length. His life covers the period between 1692 and 1763. His versatility as a poet finds illustration in the fact that he wrote much humorous poetry,

On the same day that he became a Fellow of the Royal Society, White was admitted a Member of the Corporation of Surgeons, now the Royal College of Surgeons of England.

In 1781 was founded the Manchester Literary and Philosophical Society. There resided at that time in and about Manchester a small band of literary and scientific men who had for some years been in the habit of meeting at the house of Dr. Percival and elsewhere, and had now decided that the time had come to organize themselves in a more formal manner. The first Secretary of the Society was the future biographer of Charles White, Thomas Henry, F.R.S., "Magnesia Henry," as he was called, on account of his having discovered a new method of preparing *Magnesia alba*

including "The Three Black Crows," and that he also wrote the poem from which the hymn "Christians, awake" is an extract. "He is now remembered," says Canon Beeching, "as the friend of William Law, whose periods it delighted him to turn into doggerel verse, and still better as the author of several epigrams, notably those on the King and Pretender and Handel and Buononcini." He was known amongst his friends as Doctor Byrom, but though he studied medicine for a time at Montpellier he never took a degree or became engaged in practice. (See "Dict. Nat. Biog.," "Notes to Canon Beeching's 'Lyra Sacra,'" &c.)

John Lewis Petit was born in the Parish of Shenstone, in Staffordshire, in 1736, and graduated M.D. from Queens' College, Cambridge, in 1766. He became a Fellow of the Royal College of Physicians in the following year, 1767, delivered the Goulstonian Lectures in 1768, was elected Censor in 1774 and again in 1777, and died in 1780, having been for the last six years of his life Physician to St. Bartholomew's Hospital. (See "Dict. Nat. Biog." in art. on Petit, John Louis, a notability of similar name but of later date.)

The two Lloyds, father and son, were members of a well-known Manchester family, and the names of both of them appear on the Register of the Manchester Grammar School. George Lloyd graduated M.B. from Queens' College, Cambridge (1731), lived for a time at Hulme Hall, which he purchased, and died in 1783. John, his son, entered at Corpus Christi College, Oxford, took his B.A. degree, and died in June, 1777, at the age of 42.



(calcined magnesia). White was elected one of the earliest Vice-Presidents, and continued to hold office in that capacity for many years. He read several papers before the Society, most of which were published in its Memoirs.

In 1783 he joined in the establishment of a "College of Arts and Sciences," at which courses of instruction were to be given and lectures delivered. It is believed to have been the first institution of the kind started in the provinces. White and his son took charge of the anatomical department, and delivered, up to 1788,\* courses of lectures on anatomy, which they were enabled to illustrate from their own collection of anatomical preparations, upwards of three hundred in number. It was to this collection, afterwards, in 1808, presented to St. Mary's Hospital, and unfortunately for the most part destroyed by a fire which occurred there in February, 1847, that De Quincey refers in one of the later chapters of his autobiography. "Mr. White," he says, "possessed a museum formed chiefly by himself, and originally, perhaps, directed simply to professional objects, such as would have little chance for engaging the attention of females. But surgeons and speculative physicians, beyond all other classes of intellectual men, cultivate the most enlarged and liberal curiosity; so that Mr. White's museum furnished attractions to an unusually large variety of tastes. I had myself," he continues, "already seen it; and it struck me that Mr. White would be gratified if Lady Carbery would herself ask to see it, which

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\* The opening lecture of the scholastic session of 1786 was delivered on the 8th of October in that year by Charles White. (Axon's "Annals of Manchester," 1886.)

accordingly she did. . . . Amongst the objects which gave a scientific interest to the collection naturally I have forgotten one and all—first, midst and last. . . . Nothing survives, except the *humanities* of the collection ; and amongst these, two only I will molest the reader by noticing. One of these two was a *mummy* ; the other was a *skeleton*. I, that had previously seen the museum, warned Lady Carbery of both ; but much it mortified us that only the skeleton was shown. Perhaps the mummy was too closely connected with the personal history of Mr. White for exhibition to strangers ! It was of a lady who had been attended medically for some years by Mr. White, and had owed much alleviation of her sufferings to his inventive skill. She had, therefore, felt herself called upon to memorialize her gratitude by a very large bequest, not less (I have heard) than £25,000 ; but with this condition annexed to the gift—that she should be embalmed as perfectly as the resources in that art of London and Paris could accomplish, and that once a year, Mr. White, accompanied by two witnesses of credit, should withdraw the veil from her face.\* The lady was

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\* This lady, Miss Hannah Beswick, was, it appears, haunted by a dread of being buried alive, and in order to secure herself against any mistake of the kind, left a bequest (in amount probably nothing at all like the sum mentioned by De Quincey) to Mr. White, with the proviso that she should be kept above ground for one hundred years. She made her will in 1757, and died either in that or the following year at Cheetwood Old Hall, leaving the extensive and scattered property which she had inherited to various people, but mainly to a cousin, Thomas Robinson, and his family. She was duly embalmed, swathed in ticking, and made to stand upright in a wooden case in Mr. White's museum. When the latter was made over to the Lying-in Hospital, the "mummy" is said (see *Manchester Notes & Queries*, March 20th, 1886) to have been stowed away in the roof of Sale Priory, until Charles White's death, when it came

placed in a common English clock-case, having the usual glass face: but a veil of white velvet obscured from all profane eyes the silent features behind. The clock I had myself seen, when a child, and had gazed upon it with inexpressible awe. But naturally, on my report of the case, the whole of our party were devoured by a curiosity to see the departed fair one." The mummy, however, "who left such valuable legacies and founded such bilious fevers of curiosity, was not seen by us; nor even the miserable clock-case. The mummy was not seen; but the skeleton *was*. Who was he? . . . . It was, in fact, the skeleton of an eminent robber, or perhaps of a murderer . . ." And then De Quincey proceeds to tell, with characteristic discursiveness, the story, as he had heard it, of the man at

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into the possession of Dr. Ollier who had attended him in his last illness, and who, in his turn, left it to the Manchester Natural History Museum, at one time located in King Street, and afterwards in Peter Street. Here it remained, an object of considerable interest and curiosity, until the 12th of July, 1868, when, the stipulated hundred years having some time since expired, and the Peter Street collection being about to be dispersed, the body was buried in the cemetery at Harpurhey, near Manchester. Such a story is sure to be the parent of innumerable legends. There existed, for instance, for many years, certainly up to 1879, a legend to the effect that Sale Priory, one of the mummy's temporary resting places, was haunted by the old lady's revengeful ghost.

"The mummification of friends," writes Mr. D'Arcy Power, "was not uncommon in the latter half of the 18th century, and was the outcome of a friendly rivalry. In London, William Hunter, Hewson, Sheldon, and Cruikshank were busily engaged during the years 1768-1786 in a series of interesting experiments in embalming. Sheldon proved himself a master in the gruesome art, and was superior both to his master, William Hunter, and to Cruikshank, his fellow pupil. He embalmed the body of his former mistress, who died of consumption. For many years he kept the mummy by his bedside. It is now in the Hunterian Museum in London, and still compares favourably with another mummy prepared by William Hunter and Cruikshank in 1776."

whose skeleton they were gazing, and who, in an age when the mounted robber of the high road was regarded much more as a hero than as a criminal, "had ranked amongst the most chivalrous of his order." This man, whose name was Higgins, had been transported for seven years for house-breaking, but had quickly managed to escape, and on his return to England had settled first in Manchester and then in Knutsford, where he lived for eight or nine years, and where he married a respectable woman, whom he maintained very handsomely by his robberies. He kept up all the outward appearance of an ordinary country gentleman, riding with the hounds, visiting with the people of the neighbourhood, and winning golden opinions from the rustics by his genial courtesy. He was in the habit of absenting himself, for periods of many weeks, on the plea of having to collect rents in a distant part of the country. Tradition states that before riding up the brick-paved entry common to his own stable and that of a neighbour, he was frequently observed to draw woollen stockings over his horse's feet, and that this was the first circumstance to arouse the suspicion of the inhabitants. Anyway, when a wealthy old lady was robbed and murdered at Bristol, under circumstances of great mystery and great atrocity, it came to be generally believed that Higgins was the guilty man, and suspicion, it is said, ripened into certainty when, a few weeks afterwards, the whole neighbourhood of Knutsford, including the country between Knutsford and Warrington, was deluged with Spanish coins, of which a considerable part of the old lady's treasure had consisted.\* He was

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\* The story is again told by De Quincey in his essay "On Murder considered as one of the Fine Arts." It is there alluded to in the name not of the murderer, but of the victim, Mrs. Ruscombe.

eventually tried and convicted, not, however, for this crime but for house-breaking in Wales, and was executed at Carmarthen on the 7th of November, 1767. His true history is to be found in Green's "Knutsford," in the form of an extract from the *Universal Museum & Complete Magazine*, Vol. III., p. 580, November, 1767; and it furnished the groundwork for "The Squire's Story," by Mrs. Gaskell, in the Christmas number of *Household Words* for 1853. I must, however, leave these seductive bypaths and return to my theme.

Owing in great measure to the advocacy and exertions of Charles White, there was founded, on the 6th of May, 1790, a Lying-in charity for the attendance upon poor married women at their own homes. This event has naturally a peculiar interest for me, on account of my long connection with St. Mary's Hospital, into which the Lying-in charity eventually developed. The first medical officers elected included as consulting staff Charles White himself, his son Thomas, and the two Halls, Edward and Richard. They received the uncouth appellation of "men-midwives extraordinary." In 1795, a house was taken near the old bridge, Salford, into which a few in-patients were admitted, and in the year following a large building which was situated near the New Bailey Prison, also in Salford, and which had been originally designed for an hotel but had never been licensed, was bought for about two-fifths of what it cost the proprietor and converted into a Lying-in Hospital. But after a few years, chiefly, it is said, owing to want of funds, the number of in-patients gradually diminished, until in 1814 their admission entirely ceased, the charity reverting to its original function of providing attendance at the patients' own homes.

It was in connection with this charity, and in the first year of its existence, that Dr. Thomas White delivered the first course of lectures to midwives that had been given in Manchester. He continued to deliver a course annually up to the time of his death in 1793. The lectures in 1794 were delivered by his father. For midwifery was a subject in which Charles White was deeply interested.

During the first half of the 18th century, the practice of midwifery was almost entirely in the hands of extremely ignorant women, who were grossly superstitious and were "dominated by inveterate prejudices," which had descended to them by oral tradition from the remote past; it was only in difficult cases that men were called in. White, who, for some time after commencing practice, had the care of all the parish poor not only of Manchester, but of a large district around it, had his attention called very early in his career to the disastrous effects upon the lying-in woman of the mode of management then in vogue, and soon determined to do what he could towards bringing about a change. He may, in fact, be said to have entered forthwith upon a beneficent crusade, of which the results soon became manifest, and, although there is even yet vast room for improvement, the women of this country are still reaping the benefit of the revolution he was largely instrumental in effecting. Let us hear his own description of the mode of treatment of the lying-in woman that then prevailed. "When the woman is in labour, she is often attended by a number of her friends, in a small room, with a large fire, which, together with her own pains, throw her into profuse sweats; . . . . If the woman's pains be not strong enough, her

friends are generally pouring into her large quantities of strong liquors, mixed with warm water ; and if her pains be very strong, the same kind of remedy is made use of to support her. As soon as she is delivered, if she be a person in affluent circumstances, she is covered up close in bed with additional clothes, the curtains are drawn round the bed and pinned together, every crevice in the windows and door is stopped close, not excepting even the keyhole, the windows are guarded not only with shutters and curtains, but even with blankets, the more effectually to exclude the fresh air, and the good woman is not suffered to put her arm, or even her nose, out of bed, for fear of catching cold. She is constantly supplied out of the spout of a tea-pot with large quantities of warm liquors, to keep up perspiration and sweat, and her whole diet consists of them. . . . Amongst the poor people who live in cellars and upon clay ground floors, the air is still made worse by the dampness and closeness of their houses, and the want of clean linen, and cleanliness in general. Those who live in garrets are also in no better a situation, for the putrid miasmata of several families inhabiting the lower part of the house ascend to them. . . . In a few days after delivery, the patient is perhaps seized with a shivering fit, and the nurse is surprised, as she protests she has not had the least waft of cold ; more clothes are heaped upon her ; spirituous liquors, and hot spices, are given her, to throw off the cold fit, which most certainly increase the succeeding hot one. . . .” Against these barbarities, Charles White strenuously set his face. “The evil,” says his biographer, Mr. Henry, “was indeed . . . great . . . and the mortality truly alarming. To over-

come the influence of prejudice and long-established custom, required a manly spirit and steady perseverance, united with real professional ability and the possession of the public confidence. With these requisites, Mr. White finally accomplished his object. His patients, instead of being confined to their bed for above a week, were permitted to rise on the second day; the room was well-ventilated and kept cool; and no cordials or vinous liquors were allowed, except when absolutely necessary and under proper restrictions. The good effects of these changes were so evident as to carry conviction wherever they were introduced. The miliary fever almost entirely disappeared, and the puerperal soon became of comparatively rare occurrence." I have quoted Mr. Henry's testimony at length, because it is that of a contemporary and a practising member of the medical profession, as well as being that of a distinguished man of science. After carrying out for twenty years, in a full midwifery practice, embracing much consulting work and personal attendance upon women of every rank or condition of life,\* the enlightened principles just enunciated, White published his celebrated book on the "Management of Pregnant and Lying-in Women," and so diffused his doctrines throughout the country. The work had an immediate success. One edition followed quickly upon another. Its fame and influence spread beyond the writer's own country. An American edition was published at Worcester, Massachusetts, in 1773; and the book was translated first into French and subsequently into German. "Perhaps, indeed,"

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\* See Preface to White's "Inquiry into the Nature and Causes," &c. Part II., March, 1801, pp. x. to xii.



says Mr. Henry, "few medical books have been productive of more important reform in medical practice, or of more comfort and safety to the subjects for whose benefit it was intended."

I purpose to speak presently of White's published writings in their chronological order, but as this, the most important of them, has now been mentioned, it will be convenient to make here any further observations I may have to make about this remarkable book, although in doing so, it will be taking it out of its proper order. The author has himself, in an appendix to the second edition (reproduced also in subsequent editions), summarised what he conceives to be the "most material improvements" which his book has been a means of introducing into the management of pregnant and lying-in women. They are: (1) The use of a cold or "temperate" bath during pregnancy and lactation; (2) Permitting the shoulders of the child to be expelled by the labour pains only, instead of pulling at the child's head the instant it is born, which latter treatment, he says, not only prevents the shoulders from making their proper turns so as to accommodate themselves to the pelvis, but also induces flooding and after-pains from retention of the placenta and irregular uterine contractions; \* (3) Allowing the

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\* "The rapid extraction of the child's body after the head is expelled, is a practice fraught with evil; it is one which the writer has witnessed frequently, notwithstanding the strong language used upon this subject and the able exposition given by our late highly-gifted townsman, Mr. Charles White. The temporary cessation of the expulsive efforts, after the extrication of the head, is of the utmost importance to the female, and the abrupt removal of the stimulus of distension, given to the os uteri by the shoulders and body of the child, leaves the organ without excitement before it has recovered its

circulation between the child and placenta to cease spontaneously, instead of immediately intercepting it by tying the navel-string as soon as the child is delivered ; (4) Placing the woman in an upright position as early after delivery, and as frequently, as possible.

The first three of these innovations require no comment ; they have long ago been accepted and are now regularly inculcated by every obstetric teacher. With regard to the fourth, however, a few words of explanation seem desirable. It was White's strong conviction that freedom from puerperal fever is very closely connected with this question of posture. "Writers," he says, "are still much divided in their opinions of the cause, and even of the nature, of the puerperal fever," and "it is obvious," he continues, "that till some greater certainty be obtained with regard to the cause and nature of this disease, all attempts towards a rational method of prevention, or cure, will be in vain. There are, however, some particular symptoms attending it, which, if accurately investigated, may greatly assist our inquiries." He then speaks of a rapid pulse as being the most constant and distinguishing symptom and proceeds to draw an inference which shows

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power of contraction. Fainting and hæmorrhage frequently occur in consequence of the hasty extraction of the child's body, and result from the sudden removal of the uterine and abdominal distension."—Radford (T.), "On Inversion of the Uterus." *Dublin Journ. Med. Science*, 1837.

"The practice of using force to hurry the shoulders and body of the child through the *os externum*, as soon as the head was born, is now very generally laid aside. There can be no doubt that this imprudent conduct often brought on a retention of the *placenta*.—See White's 'Treatise on the Management of Pregnant and Lying-in Women.' " Merriman (S.), "Difficult Parturition," new edit., London, 1838, footnote to p. 152.

him to have been a thinker as well as an observer. "Every surgeon," he says, "conversant with [his] business, knows that [this symptom] never fails to attend absorption of matter from abscesses or ulcers, whatever be the other concomitant symptoms . . . . If to these considerations we add that, as the puerperal fever is more fatal in large cities and crowded hospitals than in places where the air is more open and pure, so is the fever occasioned by the absorption of matter, . . . . [and] that as the puerperal fever does not appear till after delivery, so neither does absorption of matter from an abscess till it be opened and the air have access, we may, I think, with a good degree of certainty, conclude that the absorption of matter is the immediate cause of the puerperal fever as well as of that consequent upon abscesses and ulcers." In other words, he recognised, long before Sir James Simpson wrote his classical essay on the subject, the close analogy between the fever that followed surgical operations and the fever to which lying-in women were liable. White was not long before he translated these views into practice, and adopted means of preventing and treating puerperal fever founded upon them. "The horizontal position," he says, "to which women are so frequently confined after delivery, greatly favours an absorption of the *lochia*." "The *lochia*, stagnating in the womb, and in the folds of the vagina, soon grow acrid, for it is well known that the mildest humours in the human body, if suffered to stagnate, become so, as soon as the air has access to them. These are in part absorbed by the lymphatics . . . ." To prevent this absorption, he advises that, "in a few hours after delivery, as soon as the patient has had a little rest, she should sit up in bed, with a bed-

gown thrown over her shoulders . . . . [She] should lie very high with her head and shoulders, and should sit up in bed many times in a day, especially when she takes her food and as often as she suckles her child. . . . . The sooner she gets out of bed after her delivery the better—even on the same day if possible ; she should not defer it beyond the second or third at the furthest. This frequent upright posture," he says, "is of the utmost consequence and cannot be too much enforced. It prevents the lochia from stagnating, the stools and urine from being too long retained, and promotes the contraction of the uterus together with that of the abdominal muscles."\* Notwithstanding his insistence on this matter of posture, he by no means neglects other hygienic precautions. The windows are to be opened ; there is to be no board or other contrivance to block up the chimney ; the curtains are not to be closely drawn ; the lying-in chamber is to be in every respect as sweet, as clean, and as free from any disagreeable smell as

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\* No doubt discretion is needed in carrying out the views here inculcated. "Of course, no one," as I have said elsewhere, "would dream of permitting so early an assumption of the sitting posture in the case of patients exhausted either by profuse hæmorrhage or by a greatly protracted or difficult labour." But surely there is much to be said against the present custom of insisting upon the horizontal posture for several days after a normal delivery, and the plan advocated by White is after all only an application to midwifery practice of the great antiseptic principle of drainage. Speaking on this subject in 1889, I defined my own position as follows: "I have not," I said, "in my own practice and teaching dared to go quite the length that Charles White recommended ; but I do allow patients who have had a natural labour to sit up in bed occasionally for a few minutes at a time on the second or third day, and my teaching on this point is in accordance with my practice."—"Address on opening the Section of Obstetric Medicine at the Leeds Meeting of the British Medical Association." *Brit. Med. Journ.*, August 17th, 1889.

any other part of the house ; the room is to be brushed every day, and the carpets taken out to be cleaned and aired ; the patient is to be often supplied with clean linen, and clean well-aired sheets are to be laid upon the bed. "For," says he, "cleanliness, and free, pure, and, in some cases cool, air, are the greatest necessities in this situation ; and, upon the strictest examination, it appears evident to me that there never was a miliary eruption without a sweat, nor a puerperal fever without either foul air, an accumulation of excrements in the intestines, or confinement of the patient to a horizontal position . . . . except in cases where violence had been used . . . . or from some very great imprudence."

In his treatment of puerperal fever, he is still guided by the same principles. "Every method recommended . . . . as preventive of this disorder, should now be enforced in a higher degree in order to its cure." And the chapter concludes with a remarkable paragraph, quoted by Dr. Lloyd Roberts in his address last year, but well worthy of being repeated. "I must not," he says, "omit to mention in this place, the good effects I have experienced from emollient or antiseptic injections into the uterus, by means of a large ivory syringe or an elastic vegetable bottle. In those cases where the lochia have become acrid or putrid, and, by being absorbed into the circulation, have served as a constant fomes to the disease, I have by this means known the fever much assuaged, and in many cases wholly extinguished ; for though, as I have before observed, the quantity of the lochia is not to be much regarded, the quality of this discharge is a matter of infinite importance." And what else but a recognition of the contagiousness of puerperal fever could have dictated the following directions ? "[In hospitals,] if separate apartments

cannot be allowed to every patient, at least as soon as the fever has seized one she ought immediately to be moved into another room, not only for her immediate safety, but that of the other patients. Or it would be still better if every woman was delivered in a separate ward, and was to remain there for a week or ten days, until all danger of this fever was over. . . . . Whenever a patient has recovered from this fever and is removed into another room, the bedding and curtains should be washed, the floor and woodwork should be cleansed with vinegar, and it would still add to the salubrity of the apartment if it were stoved with brimstone."

"I am not now amusing the public," he says, in another place, "with idle theories and speculative reasonings . . . . I speak from facts, from facts which cannot deceive me, founded upon my father's experience of more than sixty years, and upon my own of above two-thirds of that period. . . . By the mode of practice which has been here inculcated, I have hitherto been able to prevent, or, if called in time, to cure the puerperal fever." And although puerperal fever had not been wholly absent from his practice, he was in the proud position of being able to declare that, out of the whole number of lying-in patients whom he had himself delivered, "and I may safely," he says, "call it a great one," he had never lost one, nor, to the best of his recollection, had life in one single case been greatly endangered, from puerperal fever in any of its forms. And it must have been a still greater delight to him to be able to add, that, chiefly owing "to a system of management lately introduced," and "much to the honour of our present practitioners," the number of puerperal fever cases in the neighbourhood had greatly decreased.

No one can, I think, read these extracts (which could easily

have been multiplied), without recognising that White's views and practice were far in advance of his time. The whole book, indeed, teems with startlingly modern suggestions, and may be read from beginning to end with advantage even to-day.

The first paper that White communicated to the Royal Society was read on the 27th March, 1760, and consisted of an account of a successful operation for un-united fracture.\* A second paper, also contributed in 1760, described a case of dislocation of the thigh, in an adult, produced by external violence. Both cases are well recorded, and, as we have already seen, these two communications were referred to in the schedule of White's candidature for the Fellowship of the Royal Society, nearly two years later, as constituting one of his claims to that distinction. His next paper was read before the Society in February, 1762, the same month in which his election took place, and gave an account of the value of sponge, as a topical application, in the arrest of hæmorrhage. He did not lay claim to the merit of being the first to use sponge for this purpose, but he was not aware that it had previously been employed to arrest hæmorrhage from the larger arteries. He declared that the inside of fresh and thoroughly dried sponge was, besides being perfectly easy and safe in its application, more certain in its effects than even the

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\* The operation consisted of removal of the ends of the bone, and though suggested by Charles White was not actually performed by him, but by his colleague Mr. Burchall, who so bitterly resented White's taking the credit of the case, that an inquiry was instituted and witnesses were called. A narrative of the proceedings was published by White, who therein declared that the only merit he had assumed was that of the "invention," not the actual operation, and that he had never stated anything to the contrary.

ligature itself. "It has," he says, "never yet failed me though I have applied it within these sixteen months to upwards of fifty patients, and have, since last midsummer, used it constantly without ever having had recourse to the needle and ligature except in two instances. In these cases I made use of the ligature not because I thought the sponge was insufficient but for the sake of convenience." This method was largely superseded by the tenaculum invented a few years later by Mr. Bromfeild, and White himself soon ceased to apply it except for particular cases. It greatly interested me to hear that Sir Victor Horsley adopts, in his brain surgery, no other method for the arrest of hæmorrhage than that of sponge pressure, and that he also applies it with increasing frequency in his ordinary surgical operations.

White contributed three surgical papers to the "Medical observations and inquiries" published by a society of physicians in London. One of these was on a new method of reducing shoulder dislocations of long standing, published in Vol. II. (London, 1764) and another, in the same volume, was on a case of tetanus in which the patient's recovery appeared to be the result of immersion in a hot bath. The third paper appeared some years later in Vol. IV. (London, 1772) and described a new method of amputating the leg above the ankle-joint.

But shortly before this paper was published, there appeared another of much greater importance. It is an account of a case in which the head of the "os humeri" was removed for caries and the operation is described as being the first of the kind that had been performed or at least the first that had been made public, though the author admits that there had



been instances of the heads of bones being sawn off in compound dislocations. As the question of priority here arises, it may be well to state that Mr. White's operation was performed in 1768, and that the paper was read before the Royal Society on February 9th, 1769. Already, as a matter of fact, there had been placed on record several cases in which the heads of bones had been removed for disease as well as for injury,\* but we may take it as certain that, so far as White was aware, the proceeding was a new one. His practice was imitated, in 1771, by Mr. Bent of Newcastle, and in 1778 by Mr. Orred of Chester. With the exception, however, of a case of Mr. Wainman's of Skipton-in-Craven, which occurred in 1768, and in which the ends of the bones were excised in a compound dislocation of the elbow,† and a case of Mr. Filkin's of Northwich in Cheshire, in which the patella and the articular extremities of the femur and tibia were removed in a case of diseased knee,‡ all the cases published up to this time both in this and other countries were, so far as I can find, examples of the removal of one articular surface only. The merit of suggesting the more complete operation of excision, in which not only the articular ends of the bones are removed, but the whole, or as much as possible, of the capsular ligaments, appears to belong unquestionably to Mr. Henry Park of Liverpool,§ who

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\* For particulars and references, see note under "Joints, excision of," in Cooper's "Dictionary of Practical Surgery." New edition, by S. A. Lane. Vol. II., Lond., 1872.

† See postscript to Charles White's article on the regeneration of animal substances in the *Memoirs of the Manchester Literary and Philosophical Society*, Vol. I., p. 340. Warrington, 1785.

‡ Jeffray's "Cases of excision of carious joints," pp. 52-55. Glasgow, 1806. (See following footnote.)

§ Park (H.), *An account of a new method of treating diseases of the*

first published his method in the form of a letter to Mr. Percivall Pott in 1783. It seemed desirable to state these facts, inasmuch as it has been claimed for White that he originated the operation of excision of joints for disease. This claim can scarcely be sustained. At the same time, he was certainly one of the pioneers in this department of surgery, and deserves the credit of having proposed and carried out a conservative method of operating that, so far as *he* knew, was original. The result, in his case, was successful, for although four inches of the end of the humerus exfoliated, the patient could afterwards carry heavy weights and regained all the movements of the arm.

In 1770, he published a volume entitled "Cases in Surgery." This is dedicated to his father, and he included in it, along with much new matter, all his previous surgical writings (with the exception of the paper on the surgical use of sponge, which he had already published in separate form). The appearance of this book is said to have had the effect of widely extending his reputation. It is described on the title-page as part the first, but there is no record of his having made any further contribution to strictly surgical literature.

Of his next book I have already spoken. It was his

joints of the knee and elbow, in a letter to Mr. Percivall Pott, Liverpool, 1783. A translation was published in France in 1784 by Prof. Lassus. The letter was reprinted with additions by Dr. Jeffray in Glasgow in 1806, under the following title: "Cases of excision of carious joints," by H. Park of Liverpool and P. F. Moreau de Bar-sur-Ornain, with observations by James Jeffray. Mr. Park's additions to his original letter consist of a 'second case as communicated by him in a letter to Dr. Simmons, dated 5th November, 1789, and published in Vol. XI. of *The London Medical Journal*, and "Subsequent observations by Mr. Park," dated Liverpool, 10th Sept., 1805.

*magnum opus*, the work upon which his fame most firmly rests, and which has secured for Manchester a peculiarly honourable place in the history of obstetrics. Other distinguished Manchester obstetricians succeeded him and worthily maintained the traditions that he had established, but none can be said to have been quite his equal or to have in any way dimmed the lustre of his great reputation. Following upon this larger and more comprehensive work, came another important contribution to obstetric literature, in which he gave the first accurate description published in the English language of the condition known as "white leg."\* His theory as to the nature and cause of this affection may be briefly summarised as follows:—The pregnant uterus, by the violence of its contractions during labour, presses the lymphatic vessels so forcibly against the sharp and often jagged edge of the pubic portion of the pelvic brim as to wound the vessels and cause them to discharge their contents. The lymph thus extravasated usually becomes absorbed sooner or later by the lymphatics in the neighbourhood. In a space of time varying from twenty-four hours to six weeks, the orifices in the ruptured lymphatics close, but they do so in such a manner as to constrict, and in some cases obliterate, the lumen of the vessels, which consequently become gorged with lymph to such an extent as to cause a general swelling of the limb with all the usual signs and symptoms that characterise "white leg." The

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\* "An inquiry into the nature and cause of that swelling in one or both of the lower extremities, which sometimes happens to lying-in women," &c. The first edition was published at Warrington in 1784, the second in London in 1792, and a supplementary volume, Part II., at Manchester in 1801.

whiteness is due to incidental compression of the blood-vessels ; all the other physical signs together with the pain, result from the suddenness and extent of the initial distension. The lymph that exudes when the limb is punctured flows not from the meshes of the cellular tissue like the fluid in anasarca, or from the main trunks of the lymphatic vessels but from the *minima vasa* of the cutaneous lymphatics. The speedy subsidence of the first violent pain and of the extreme distension is due to the anastomosis of the injured vessels with the vessels more deeply seated, whereby the obstructed lymph is by degrees carried off, though it is many weeks before the relief is complete. This, I believe to be a fair though of course condensed statement of White's views as to the pathology of the condition he is describing. It is scarcely matter for surprise that such a theory, however ingenious, was not allowed to pass long unchallenged, and a supplementary volume was issued, the object of which was to reply to the various criticisms that had been offered\* and at the same time to bring forward a fresh body of evidence in support of the

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\* The most important of these were contained in (1) an essay published in 1792, by Mr. Trye of Gloucester, surgeon to the Infirmary of that place, and formerly assistant to Mr. Sheldon, Professor of Anatomy to the Royal Academy of Arts ; (2) an essay in the third volume of Dr. Ferriar's "Medical Histories and Reflections," published in 1798, on "An affection of the lymphatic vessels hitherto misunderstood"; and (3) an Essay on *phlegmatia dolens*, by John Hull, M.D., published in Manchester in the year 1800. It was in this last named essay that the name *phlegmatia dolens* appears for the first time. Dr. Hull was a botanist, with the botanist's instinct for labelling and classifying everything. He accordingly gave the disease a name, in order to be able to fit it into its proper place in the nosology, which he does, treating it exactly as though it were a new botanical specimen. White, in his reply, further elaborated the name into *phlegmatia alba dolens puerperarum*.

author's opinions. In judging of his theory, it must be remembered (1) that, as all his fourteen cases recovered, he had no opportunity of examining the condition of the parts by dissection, and (2) that we are even yet without a convincing and adequate pathological explanation of this remarkable affection. But whatever be thought of its pathology, there can be no difference of opinion with regard to the value of White's essay as an original and accurate clinical study, and it is in this light that it will always possess an interest for the historian of obstetric medicine.

His next essay, which appeared in 1790, was entitled, "Observations on gangrenes and mortifications accompanied with or occasioned by convulsive spasms."\* The object of the essay is to call attention to the excellent effects which the author had found to follow the administration in these cases of large and frequently repeated doses of musk and salt of hartshorn. The musk was held to be the important ingredient. It is described as possessing anti-spasmodic, diaphoretic, sedative and cordial properties. It had, so far as the author knew, never been given before for this particular condition, nor had it, in his opinion, ever been prescribed in sufficiently large doses. He was evidently greatly pleased with himself for having found out a new remedy, and prided himself quite as much on the result of this, his solitary, excursion into the domain of therapeutics, as he ever did upon being the discoverer of a new operation or the delineator of a hitherto

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\* On referring to the cases described, it is evident that by the phrase "convulsive spasms," the author means hiccough and *subsultus tendinum*.

unrecognised disease. This brings to an end the series of White's strictly professional writings.\*

In his later years he interested himself with questions of natural history, and read a series of papers before the Manchester Literary and Philosophical Society, embracing such different subjects as the regeneration of animal substances, the natural history of the cow considered as a milk producer for the benefit of man, the thigh-bone of a mammoth, and some new kinds of timber trees, three in number,† which he believed likely to prove a valuable acquisition to this country "both in point of profit and as trees for ornament and shade." More important, however, than any of these essays, was one on "gradation" in man and in the animal and vegetable kingdoms, which was first read in a series of papers, before the Manchester Literary and Philosophical Society during the year 1795, and would have been published in the Society's memoirs for that year, had not the author hesitated to burden a young and struggling institution with so costly a production.

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\* Finding, in the catalogue of printed books at the British Museum, under the name of Charles White, the following entry: "Lying-in. Mr. W . . . 's address to the community respecting conceal'd pregnancy," I naturally flattered myself that I had unearthed a writing unmentioned by and probably unknown to White's former biographers. On referring, however, to the publication itself, the thing proved to be a pamphlet written for the purpose of advertising a house in London kept by a Mr. and Mrs. White, where ladies who had reason to be ashamed of their condition could be received for their confinement. A tariff of charges is furnished and absolute secrecy promised. It was evident that the error had arisen from the fact that Charles White's principal work is on the management of "lying-in" women. For the sake of his reputation as well as for the sake of accuracy, I communicated my discovery to the Keeper of the Printed Books, who at once had the error rectified.

† These trees were the black American birch, the Athenian poplar, and the iron, wainscot, or Turkey oak.

He eventually published it himself in 1799 in the form of a quarto volume, with illustrations. The essay was suggested by a demonstration of John Hunter's, at which White was present, and in which a number of skulls was placed upon the table in regular series: first the human skull with its varieties, then the skull of a monkey, and so on to that of a dog. It occurred to White, as he reflected on the question, that nature would not be likely to employ gradation in the matter of skulls alone, but, if she adopted it at all, would almost certainly adopt it as a general principle. He set himself, in the scanty leisure of a busy life, and often during the hours that should have been devoted to sleep, to read, reflect and observe on the subject, and eventually he formulated the result in this essay. The facts and observations he had been able to collect had led him to the conclusion that there *is* a general gradation in nature, not only between the different races of men, but from man to other animals, from one kind of animal to another, from animals again to vegetables, and through the whole vegetable system. He had studied Camper's facial angle theory, and had advanced beyond it. He had read with discrimination the strange mixture of sound sense and grotesque nonsense in the writings of Lord Monboddo. "The doctrine of progress in creation" was, as the late Dr. Angus Smith pointed out in speaking of this essay, very much more in the minds of men at that time than is commonly supposed. White, however, got no further than the idea of gradation; he refused to believe in development from species to species, and stoutly maintained "that different species were originally created with those distinctive marks that they still retain." In the course of his essay, he disclaims any intention to discredit

revelation, or any wish, whilst maintaining the inferiority of the Africans to other races, to uphold the slave trade, which he considers wholly indefensible, or to countenance the opinion of which he appears to have been suspected that negroes have no souls. He believes, on the contrary, that "negroes are, at least, equal to thousands of Europeans in capacity and responsibility," that they are "equally entitled to freedom and protection," and that they have the same claim as the rest of mankind to the hope of a future state. The author laments his want of a thorough knowledge of natural history, which indeed is obvious throughout the essay and gives it what may be described as an air of amateurishness. But even when that is said, it remains a remarkable and interesting production, considering the time at which it was written and the circumstances under which it was composed.\*

In the year 1803, White was attacked with an eye affection said to have been at that time epidemic. At first only the left eye was involved. The pain he suffered in it was extreme and long-continued, and although the inflammation was eventually subdued, the sight of the eye was never completely restored. He still continued to practise, however, and even to perform operations. There is, in the Library of the Obstetrical Society of London, an autograph letter addressed by him to Dr. Rigby of Norwich, which is

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\* This treatise provoked a reply from Samuel Stanhope Smith, D.D., President of New Jersey College: "An essay on the causes of the variety of complexion and figure in the human species; to which are added animadversions on certain remarks made on the first edition of this essay by Mr. Chas. White." Second edit., New Brunswick 1810. A copy of this book is in the British Museum.



interesting, not only in itself, but as showing the firmness of his handwriting, and the character displayed in it, notwithstanding his age and the impairment of his vision. The letter is dated "Sale, Sept. 6, 1811," and reads as follows:—

"MY DEAR SIR,—Give me leave to return you my best thanks for the fifth edition of your excellent essay on the uterine hæmorrhage, and particularly for the honour you have conferred upon me by dedicating it to me. I read your first edition as well as the MS. with great satisfaction, and I now find you have enriched it much by several valuable additional cases.

"I have just now finished my improvements at my little villa at Sale in Cheshire, and am now retiring at eighty-three from the busy scenes of life with as much activity and good health as generally falls to persons of that age, and in future I propose to confine myself to consultations. I am, Yours most faithfully, C. WHITE."

The "little villa" spoken of in this letter is the house now known as Sale Priory, which had belonged to Charles White's father, and had been *his* haven of refuge in his declining years as it was now to be his son's. At the end of what was once a picturesque grove of forest trees forming part of the Priory grounds, are the dilapidated remains of a monument of red sandstone, originally about fourteen feet in height, erected to the memory of his father by the more eminent son. Dr. Angus Smith, in his "Centenary of Science in Manchester," gives a graphic and touching description of a visit he paid to this monument in April, 1881, in company with Dr. Joule, the famous discoverer of the mechanical equivalent of heat. They

found it in a ruinous condition, looking "desolate, outcast, and forlorn." It stood outside the present limit of the Priory grounds, close to the pig-styes. No one seemed to know what it was. One man declared it was a monument to a horse. Dr. Joule displayed great interest in the search for this memento, such indeed, says Dr. Smith, "as only a warm-hearted man could," and when at length an almost illegible inscription was discovered, he took great pains in deciphering and writing it out. The following is a copy of it:—

"To the memory of Dr. Thomas White, who, after acquiring prominence in his profession, retired from its honours and emoluments to enjoy in rural tranquillity the pursuits of knowledge. Serene and cheerful through the declining period of life, he attained the eighty-first year of his age with faculties unimpaired, and died July 20, 1776. The grove which he planted and reared is now in its maturity. Consecrated to his revered name by his only son Charles White, who erected this monument A.D. 1790."

White was not destined to enjoy his rural retirement very long, for in the year following that in which the letter to Dr. Rigby was written, he began to suffer pain in the hitherto unaffected eye and very soon became totally blind. His health now gradually gave way, and from the month of October he was wholly confined to his bed. During his last illness, although his mental faculties were impaired, he is said to have enjoyed intervals in which his judgment was unclouded and even vigorous. At length, on the 20th of February, 1813, after being five months in this condition, he died, at the ripe age of eighty-four, thus finishing, to use the

words of his almost equally aged biographer,\* "a long life of unremitting exertion and of great and extensive usefulness."

Charles White married on the 22nd November, 1757, Ann, daughter of John Bradshaw, at one time (1753) High Sheriff for the county of Lancaster, and of Elizabeth his wife, youngest daughter of the Right Rev. Samuel Peploe, D.D., Bishop of Chester and Warden of the Collegiate Church of Manchester. Charles and Ann White had eight children, four sons and four daughters,† Thomas, his second son, became Physician to the Manchester Infirmary, and, as has been already stated, undertook, in association with his father, the charge of the anatomical department in the College of the Arts and Sciences instituted in Manchester in 1783, delivering courses of anatomical lectures there in the years 1787 and 1788. He made considerable additions to his father's museum of anatomical preparations. He took part in the founding of the Manchester Lying-in Charity and Hospital and delivered lectures on midwifery in connection with it from its opening in 1790 up to the time of his death, which occurred, from the effects of a fall from his horse, in 1793. He married in 1787, Frances, daughter of Dorothy Hague, widow, of Park Hall, near Hayfield, Derbyshire.‡ His father dedicated to him his

\* Henry was 78 when his biography of White was written.

† Their names were as follows :—Ann, afterwards married to Sir Rich. Clayton, Bart., of North Hall, Wigan, born September 25, 1758; Charles, born July 5, 1760 (died January 4, 1761); Thomas, born January 10, 1763; Charles, born September 10, 1765; Sarah, afterwards Mrs. Fielden, born May 24, 1766; Eliza, afterwards the wife of the Rev. Oswald Leycester, born December 14, 1768; John Bradshaw, born August 26, 1771; and Rosamond, born July 2, 1775.

‡ A son, John White, was born in 1790. He was educated at Eton and Christ Church, Oxford, where he matriculated 23rd

"Observations on gangrenes and mortifications" (1790) in words that are worth quoting both as furnishing further evidence of the respect he bore to his own father's memory, and as indicating the pleasant nature of his relations with his son and the hopes he entertained for his future.

The dedication runs as follows :—

"To Thomas White, M.D., Teacher of Anatomy and Midwifery, Physician to the Infirmary and Lunatic Hospital in Manchester, Hon. Member of the Medical Society in London, and Extraordinary Member of the Royal Medical Society of Edinburgh.

"DEAR SON,—Some time ago I published a volume of cases in Surgery, which I dedicated to my father, whose name you bear, but who is now, alas! no more. To whom can I more properly address the following pages than to you? The study of medicine has been your voluntary choice, and you have an immediate relation to them, from having been an

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October, 1810. He afterwards became a captain in the North Derbyshire (High Peak) Yeomanry Cavalry, and was a remarkably expert horseman. He was famous in the hunting-field, and for some years was Master of the Cheshire hounds. He also at one time filled the office of High Sheriff of Cheshire. He rebuilt Park Hall and resided there for fifty-three years. He died at Dale Fords, in Cheshire, in February, 1866, and was buried at Glossop. He left three children, one son and two daughters. The son had one boy, who died when young. Only one of the daughters (Elizabeth) left children, and it is to a son of hers, Mr. John C. Swan, of Portland House, Cullercoats, that I am indebted for the privilege of being able to refer to several family documents that have been of great use to me. Captain John White's son, Captain Thomas White, sold Park Hall in 1869. The house had long been known as one of the most pleasant residences in that part of the country. It is now the guest-house of the Co-operative Holidays Association. (See letter signed "Luke Garside" in *Manchester City News*, March 21, 1903).

eyewitness to most of the facts which I now lay before the public. That you may equal, and, if possible, excel your grandfather, as a gentleman, a scholar and as a professional man, is the sincere prayer of, Your affectionate father, C. WHITE. Manchester, February 10, 1790."

Of the other three sons of Charles White, one, Charles, died in infancy. The third son, also named Charles, was accidentally drowned in June, 1774, whilst bathing with his elder brother, Thomas, and other schoolfellows in the Irwell. (Harland's *Collectanea*, Chetham Society's Publications, Vol. II., p. 182.) The fourth, John Bradshaw White, was educated for the medical profession, lived with his father in King Street, Manchester, and became one of the medical officers of the Manchester Lying-in Hospital. He died, however, in the year 1797, at the early age of twenty-seven, and was buried in the old church at Ashton-upon-Mersey. A tablet in the north wall of the church, erected in memory of Charles White and several members of his family, indicates the place of interment both of Charles White himself and of his youngest son. The monument bears the following inscription :—

"Near this place lieth the body of Thomas White, M.D., who died July 20, 1776, aged 80, and Rosamund, his wife, who died April 23, 1777, aged 80.

"Beneath this marble lieth also the body of Charles White, Member of the Corporation of Surgeons and Fellow of the Royal Society, who, after rendering himself eminent in his profession for the space of sixty years, by a dexterity and extent of knowledge scarcely exceeded by any of his con-

temporaries, retired to the enjoyment of rural and domestic felicity in the society of his family and friends at Sale within this parish. Died on the 20th of February, 1813, aged 84.

"Also the body of John Bradshaw White, who died April 27, 1797, aged 27."

And so the curtain closes on a notable, I might almost say a grand, figure, on a man of strong individuality and great force of character, who, endowed with an intellectual capacity far beyond the bulk of his contemporaries, powerfully influenced his generation as such a man could not fail to do, and, fortunately, influenced it, so far as we know, almost wholly for good. It may be that now and then he yielded to a temptation to which men of predominant intellect and force of character are specially prone, the temptation to let others see and feel the superiority of which they themselves are conscious. Stories have come down to us which show that he did occasionally in his behaviour towards his professional brethren carry matters with rather a high hand, and that in one instance, at least, he displayed a morbid sensitiveness to what he regarded as disloyalty on the part of a distinguished patient, and asserted what he mistakenly conceived to be his rights in a somewhat undignified manner. But, on the whole, we have no reason to doubt his own statement that he was "on the best terms with most of the faculty in the town of Manchester and its neighbourhood,"\* and certainly nothing could exceed the admiration expressed for his character and work both in Manchester and elsewhere

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\* See Preface to Part II. of the "Inquiry into the nature and cause of that swelling, etc.," Manchester, 1801, p. xii.

by those who, being leaders of the profession to which he belonged, were best qualified to judge. It is on record that he possessed a clear and pleasant voice, and that he was an impressive and inspiring teacher. His painstaking manner in the investigation of a case, and his promptitude and firmness in coming to a decision, gave his patients unlimited confidence in him. He was a genial companion, ever ready to gather as well as to impart information, and his conversation is said to have abounded with entertaining anecdotes. He was a man of whom Manchester will always feel proud, and, in taking leave of him to-day, we can adopt, with very slight modification, the graceful words addressed to him towards the close of his life by his old friend Dr. Rigby of Norwich,\* and, after the lapse of nearly a hundred years, can still truthfully say "that time has in no degree lessened the sense of our obligations to him, nor can it diminish the great respect that has ever been entertained for his high character as a surgeon, as an author, and as a man."

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\* See the dedication to the fifth edition of his famous monograph on uterine hæmorrhage.

# LIST OF CHARLES WHITE'S PUBLISHED WRITINGS.

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- "An account of a remarkable operation on a broken arm." (Read before the Royal Society, March 27, 1760). *Phil. Trans.*, Vol. LI., for 1760, Part II., p. 657. London, 1761.
- "An account of a complete luxation of a thigh-bone in an adult person, by external violence." (Read before the Royal Society, May 1, 1760). *Phil. Trans.*, Vol. LI., for 1760, Part II., p. 676. London, 1761.
- "An account of the topical application of the sponge in the stoppage of hæmorrhages." (Read before the Royal Society, Feb. 11 and 18, 1762). Pp. 55. London, 1762.
- "A particular narrative of what has happened relative to a paper published in the Fifty-first Volume of the *Phil. Trans.*, entitled, 'An account of a remarkable operation on a broken arm, &c.,' in which the principal facts are proved by evidence." Pp. xvii., 35. London, 1762.
- "An account of a new method of reducing shoulders (without the use of an Ambe), which have been several months dislocated, in cases where the common methods have proved ineffectual." (Read June 29, 1761). *Med. Obs. and Inquiries by a Society of Physicians in London*, Vol. II., p. 373. London, 1764.
- "An account of the successful treatment of a locked jaw, and other spasmodic symptoms, supposed to have been occasioned by a wound in the fourth finger of the left hand." (Read August 24, 1761). *Med. Obs. and Inquiries*, Vol. II., p. 382. London, 1764.



"Case in which the upper head of the os humeri was sawed off, a large portion of the bone afterwards exfoliated, and yet the entire motion of the limb was preserved." (Read before the Royal Society, Feb. 9, 1769). *Phil. Trans.*, Vol. LIX., for 1769, p. 39. London, 1770.

"An account of a new method of amputating the leg a little above the ankle joint, with a description of a machine particularly adapted to the stump." (Read Feb. 20, 1769). *Med. Obs. and Inquiries*, Vol. IV., 2nd edit., p. 168. London, 1772.

"Cases in surgery, with remarks." Part the First. Pp. xv., 173. London, 1770.

"A treatise on the management of pregnant and lying-in women, and the means of curing, but more especially preventing, the principal disorders to which they are liable. Together with some new directions concerning the delivery of the child and placenta in natural births." Illustrated with cases. 2 plates. Pp. xx., 353. London, 1773.

——— 2nd edit., with Appendix, 2 plates, pp. xxiii., 448. London, 1777.

——— 3rd edit., revised and enlarged, 2 plates, pp. xix., 476. London, 1784.

——— 5th edit., 2 plates, pp. xix., 476. London, 1791.

NOTE.—It seems probable that there were only four English editions, and that the word "fifth" on the title-page of the 1791 edition was a printer's error for "fourth." Amongst the reasons for thinking so are: (1) that no trace of an edition intermediate between the third (1784) and fifth (1791) can be discovered; (2) that there was scarcely time for an intermediate edition; (3) that the postscript to the preface in the 1791 edition is the same as in the third edition except that "fourth" is substituted for "third," and "three very large impressions" are said to have been called for instead of "two"; and (4) that the mis-print of "fouth" for "fourth" in this 1791 postscript, suggests that the title-page and preface of this edition did not receive the author's correction.

"An inquiry into the nature and cause of that swelling in one or both of the lower extremities, which sometimes happens in lying-in women, together with an examination into the propriety of those who do and of those who do not give suck." 3 plates, pp. 84. Warrington, 1784.

——— 2nd edit., 3 plates, pp. 84. London, 1792.

——— Part II., 4 plates, pp. xv., 134. Manchester, 1801.

"On the regeneration of animal substances." (Read Dec. 18, 1782). *Memoirs of the Lit. and Phil. Soc. of Manchester*, Vol. I., p. 325. Warrington, 1785.

"On the natural history of the cow so far as it relates to its giving milk, particularly for the use of man." (Read March 12, 1783). *Ibid.*, p. 442.

"An account of the late Captain M——'s case [of wound of the axillary artery received in a duel], communicated to Dr. Simmons, F.R.S." *London Med. Journ.*, Vol. IV., pp. 159-172. 1784.

"Observations on gangrenes and mortifications, accompanied with or occasioned by convulsive spasms or arising from local injury producing irritation." Pp. 30. Warrington and London, 1790.

"An account of the regular gradation in man and in different animals and vegetables, and from the former to the latter." (Read to the Manchester Lit. and Phil. Soc. at different meetings in the year 1795). 4 plates, 4to, pp. x., 146, and Appendix, cxxxix-cxli. London, 1799.

"Observations on a thigh-bone of uncommon length [mammoth]. (Read Nov. 10, 1784). *Memoirs of the Lit. and Phil. Soc. of Manchester*, Vol. II., p. 366. London, 1789.

"An account of three different kinds of timber-trees which are likely to prove a great acquisition to this kingdom, both in point of profit and as trees for ornament and shade." (Read April 21, 1797). *Memoirs of the Lit. and Phil. Soc. of Manchester*, Vol. V., Part I., p. 163. London, 1798.

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White (C.), Hall (R.), and Thorp (J.): "A further statement of the case of Elizabeth Thompson, upon whom the Cæsarean operation was performed in the Manchester Lying-in Hospital: in addition to that published by Mr. Wood in the *Memoirs of the Med. Soc. of London* (Vol. V., Lond., 1799)." 4to, pp. 7. Manchester, 1799.

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Green (Henry) Knutsford : its traditions and history. Pp. 121-130. London, 1859.

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LIST OF  
RELICS AND OTHER ARTICLES EXHIBITED  
ON THE OCCASION OF THE FOREGOING ADDRESS.

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LENT BY JOHN C. SWAN, ESQ., *Cullercoats*.

Portrait of Charles White in oils, by J. Allen.\*

Half figure, seated, facing the spectator nearly full face; left arm resting on table covered with crimson cloth, hand hanging down over edge of table; black cloth coat, white neck-cloth; behind, a crimson curtain, and, to right, on a shelf, some glass museum jars. Canvas, 30 in. x 25 in. (*See footnote to page 8.*)

Apothecary's Weights and Scales used by White.

Silver Medal presented to White by the Manchester Society for the Improvement of Agriculture.

Letter from Charles White to his Children. Written in his 80th year, and signed "Your old doating father, Chas. White."

Letters from Charles White and his son Thomas, in reference to the settlements on the marriage of the latter to Miss Hague, dated 1786 and 1787.

\* Born 1769, died at Erdington, near Birmingham, Nov. 19, 1839. Much of his professional life appears to have been spent in Lancashire, viz., at Lancaster, Preston, and Manchester. (*See J. H. Nodal's "Art in Lancashire and Cheshire," reprinted from Papers of the Manch. Literary Club, 1884.*)

The following note appears in the "Annals of Manchester" under the year 1810: "Joseph Allen, portrait painter, settled in Manchester and painted a great number of portraits. He was a native of Birmingham. He retired from Manchester to Buxton . . . ." (Axon's "Annals of Manchester," Manch., 1886, p. 142.)





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MANCHESTER ROYAL INFIRMARY A HUNDRED YEARS AFTER ITS  
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The dome, so familiar to the present generation of Mancunians,  
was erected a year or two later (1854) after a design by Sir Charles  
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Letter from the rector of Ashton-upon-Mersey, in regard to "Hay-tythe," with Charles White's reply.

Diploma of Fellowship of the Medical Society of London, 1787.

An old Will of Charles White's, dated 1779.

Will of Mrs. Rosamund White, Charles White's mother.

Deed of Gift of Mrs. Rosamund White to her son, Charles White, 1754.

Will of Mrs. Sarah Bower, Charles White's maternal grandmother, 1729.

Will of Mrs. Elizabeth Bradshaw, Charles White's mother-in-law, 1780.

Letter to Charles White, with copy of a resolution of the Board of the Manchester Lying-in Hospital, on the occasion of his resignation of the appointment of Man-midwife Extraordinary to that Charity in 1811.

Indenture of Apprenticeship of Peter Holland (afterwards of Knutsford) to Charles White, with bond, and papers relating to an action-at-law arising out of the same.

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Print of the house in King Street, Manchester, in which Charles White resided and practised his profession. (*See illustration.*)

Print of the Manchester Royal Infirmary as seen from the north-east, before the addition of the dome, showing the main entrance with portico, the north wing, and the Infirmary Pond. (*See illustration.*)

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Autograph letter from Charles White to Dr. Rigby, of Norwich,  
dated Sept., 1811.

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Copy of Certificate of Candidature of Charles White for the  
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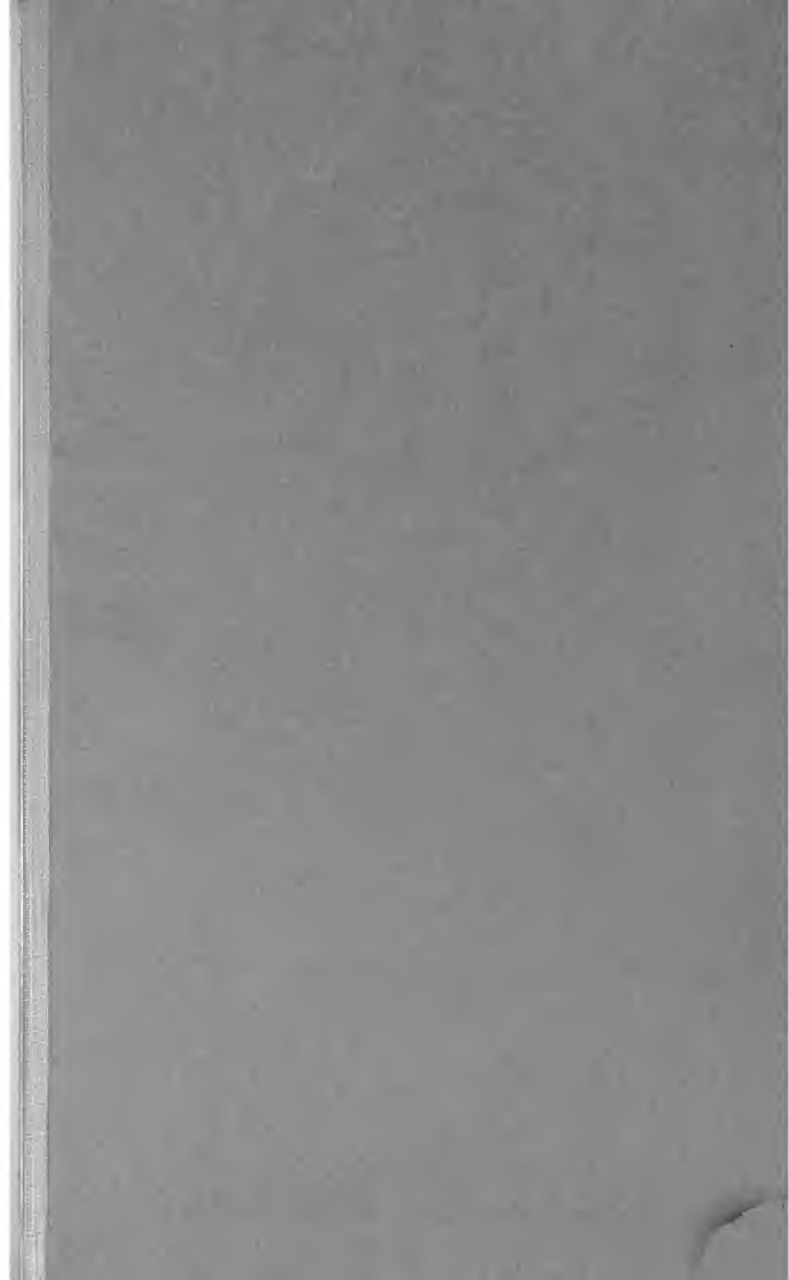
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